

**Practice: 576 - Livestock Shelter Structure****Scenario: #1 - Portable Wind Shelter****Scenario Description:**

Portable Livestock Fabricated Wind Shelter is installed to provide protection for livestock. The shelter can be moved around the grazing unit in order to prevent heavy use resource concerns at any one location.

**Before Situation:**

Herds are held and fed in fragile riparian areas in order to reduce stress on domestic animals from harsh winter conditions and provide protection from wind. The concentration of animals in these areas degrades streambanks, causes excessive sedimentation, damages woody vegetation, overgrazes herbaceous vegetation, in addition to degrading water quality through manure deposition and erosion. Resource concerns are water quality, animal health, plant productivity, health, and vigor, and inadequate shelter.

**After Situation:**

Portable fabricated wind shelters are utilized to provide shelter for livestock in upland grazing areas from the riparian zones. The portable shelters are moved in rotation with feeding areas thereby limiting soil disturbance and reducing the impacts of heavy use at any one location. As a result of implementing this practice, the herd can be moved out of the impacted area and water quality and vegetation health resource concerns will be addressed. A typical portable wind shelter involves a series of steel framed panels faced with corrugated metal. Each unit is approximately 8 feet tall and 24 feet long, 80% solid faced. Four panels (96 - feet) would be utilized to provide shelter to a herd size of 190 animals.

**Scenario Feature Measure:** Length of Wind Shelter

**Scenario Unit:** Linear Foot

**Scenario Typical Size:** 96

**Scenario Cost:** \$3,501.70

**Scenario Cost/Unit:** \$36.48

**Cost Details (by category):**

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
<b>Equipment/Installation</b>						
Tractor, agricultural, 60 HP	963	Agricultural tractor with horsepower range of 50 to 90. Equipment and power unit costs. Labor not included.	Hour	\$24.41	4	\$97.64
<b>Labor</b>						
Equipment Operators, Light	232	Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	\$22.38	4	\$89.52
General Labor	231	Labor performed using basic tools such as power tool, shovels, and other tools that do not require extensive training. Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$18.71	4	\$74.84
Skilled Labor	230	Labor requiring a high level skill set: Includes carpenters, welders, electricians, conservation professionals involved with data collection, monitoring, and or record keeping, etc.	Hour	\$29.26	8	\$234.08
<b>Materials</b>						
Structural steel tubing, 2" diameter	1120	Structural steel tubing, 2" diameter, 1/8" wall thickness, materials only	Foot	\$3.54	200	\$708.00
Corrugated Steel, 21 gauge	224	Corrugated or ribbed, galvanized, 21 gauge, includes fasteners, materials only.	sq ft	\$2.70	615	\$1,660.50
Drill Stem, steel, used	1393	Used drill stem typically 2-3/8" or 2-7/8" diameter. Materials only.	Foot	\$1.81	352	\$637.12



**Practice: 576 - Livestock Shelter Structure****Scenario: #2 - Permanent Wind Shelter****Scenario Description:**

Permanent Livestock Fabricated Wind Shelter is installed to provide protection for livestock.

**Before Situation:**

Herds are held and fed in fragile riparian areas in order to reduce stress on domestic animals from harsh winter conditions and provide protection from wind. The concentration of animals in these areas can degrade streambanks, cause excessive sedimentation, damage woody vegetation, overgraze herbaceous vegetation, in addition to degrading water quality through manure deposition and erosion.

Resource concerns are water quality, animal health, plant productivity, health, and vigor, and inadequate shelter.

**After Situation:**

Permanent fabricated wind shelters are installed in order to provide shelter for livestock in upland grazing areas away from the riparian zones. As a result, animals can be held in an area away from the riparian zone thereby eliminating the impacts to water quality and riparian health. A typical scenario is a Fabricated Wind Shelter installed in association with an animal feeding operation (AFO). The AFO has been moved out of the riparian zone where shelter was previously provided by the surrounding riparian woody vegetation. The AFO has been moved to a location where shelter is not naturally provided and needs to be fabricated. The typical fabrication involves a permanent, wood framed, metal or wood faced, 8.5 - foot high, 200 - foot long, fabricated wind shelter, 80% solid face, secured to the ground with wood posts.

**Scenario Feature Measure:** Length of Wind Shelter

**Scenario Unit:** Linear Foot

**Scenario Typical Size:** 200

**Scenario Cost:** \$6,150.87

**Scenario Cost/Unit:** \$30.75

**Cost Details (by category):**

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
<b>Equipment/Installation</b>						
Tractor, agricultural, 60 HP	963	Agricultural tractor with horsepower range of 50 to 90. Equipment and power unit costs. Labor not included.	Hour	\$24.41	5	\$122.05
Truck, Pickup	939	Equipment and power unit costs. Labor not included.	Hour	\$38.70	16	\$619.20
Auger, Post driver attachment	934	Auger or post driver attachment to a tractor or skidsteer. Does not include power unit. Labor not included.	Hour	\$8.71	5	\$43.55
<b>Labor</b>						
General Labor	231	Labor performed using basic tools such as power tool, shovels, and other tools that do not require extensive training. Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$18.71	21	\$392.91
<b>Materials</b>						
Dimension Lumber, Treated	1044	Treated dimension lumber with nominal thickness equal or less than 2". Includes lumber and fasteners	Board Foot	\$0.85	400	\$340.00
Corrugated Steel, 21 gauge	224	Corrugated or ribbed, galvanized, 21 gauge, includes fasteners, materials only.	sq ft	\$2.70	1360	\$3,672.00
Post, Wood, CCA treated, 6" x 12-14'	13	Wood Post, Line/End 6" X 12-14', CCA Treated. Includes materials and shipping only.	Each	\$26.73	26	\$694.98
<b>Mobilization</b>						
Mobilization, medium equipment	1139	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$266.18	1	\$266.18